2207977

SPECIFCATIONS FOR A HIGH PERFORMANCE LIQUID SYSTEM

GENERAL

The Vendor will only offer new equipment.
The equipment will operate on 115V electricity.
The Vendor will supply all connections, printed circuit boards, cables, software, and any other device necessary for the proper operation of the equipment.
The vendor will supply all pressure regulators, filters, tubing, and all fittings required to connect the compressed gases to the HPLC
The Vendor will make only one charge for installation and familiarization of the entire system.
The vendor will include at least a one-year warranty on all major components that covers all travel, labor, and non-consumable parts required to return the instrument operating at factory specifications.
The vendor upon award of the bid shall ensure that its system is delivered, installed, and operator familiarization completed within 90 days.

High Performance Liquid Chromatograph Technical Specifications

Solvent Delivery System

Quaternary HPLC pump controlled by data system.

Operating pressure to 5880 psi
Flow rate range: 0.001 – 10 ml/min, in 0.001 ml/min increments
Flow precision: ≤0.07% RSD or ≤0.02 min SD, whatever is greater
Flow accuracy: Must be ±1% or 10µl/min whatever is greater
Compositional precision: <0.02 % SD, at 0.2 and 1 ml/min
The vendor to include connection capillaries for system

Solvent Degasser

Stand alone or built-in system
4 channels - degassing capability for all mobile phases

Thermostated Column compartment

Temperature range: 10°C above ambient to 80°C
Temperature precision: ±0.15°C
Temperature accuracy: ±1.0°C
Space for up to 2 or more 300 mm columns

Autosampler

The Autosampler will have the following features or perform the following tasks:

A standard 100-sample carousel for 2-mL vials
Injection volume: volumes up to 100 µl
Injection accuracy: ±2%
Injection range: 0.1 – 100 µl
Injection precision: <0.25 % RSD from 5 – 100 µl
Sample Carryover: <0.1%
The functions of the autosampler must be controlled by the Data system Software

Multiple-wavelength Detector

Detector type: 1024-element diode array
Wavelength range: 190-950 nm
Wavelength accuracy: ±1 nm, Deuterium lines, verification required
Slit width: Programmable (1 to 16 nm)
Diode width: <1 nm
Wavelength bunching: Programmable, 2 – 400 nm, in steps of 1 nm
Light source: Deuterium and tungsten lamp
Linearity range: >2 AU upper limit
Drift: 0.9 x 10^{-3}mAU/h at 254 nm
Noise: ±0.8 x10^{-5} AU at 254 nm and at 750 nm
Flow cells: Standard flow cell volume with 10mm-cell path length
Time programmable: wavelength, polarity, peak width, lamp bandwidth, autobalance, wavelength range, threshold, spectra storage mode

Fluorescence Detector

Dual wavelength operation
Light source: minimum 20 W Xenon flash lamp
Excitation monochromator: range 200-700 nm
Emission monochromator: range 280 – 900 nm
Wavelength repeatability: ±0.2 nm
Wavelength accuracy: ±3 nm
Flow cell: Standard 8µl volume, quartz
Time Programming:

Post Column Reaction System

The post-column Derivatization Instrument shall be equal to or better than Pickering Vector PCX for Carbamate and Glyphosate analysis including connection components and reservoir bottles.:

- Reagent Pumps
- Flow Path
- Reactor
- Gas pressure manifold and regulator
- Pressurized reagent reservoir

Carbamate Analysis Kit for EPA Method 531.1, including analytical column
Glyphosate Analysis Kit for EPA Method 547 or AOAC 991.08, including analytical column
The system shall include a one-year warranty, including parts, labor, and travel.

Computer

HP Compaq business desktop PC or equivalent with MS windows, 19" flat panel monitor, DVD ROM/CD writer, HP Laser Jet printer or equivalent.

Operational Manuals

The vendor will provide an operational manual for each item acquired.